

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
10 May 2002 (10.05.2002)

PCT

(10) International Publication Number
WO 02/37422 A1(51) International Patent Classification⁷: **G06T 15/00****ACOSTA, Mark** [US/US]; 2777 Woodland Park Drive
#154, Houston, TX 77082 (US).

(21) International Application Number: PCT/US00/29835

(74) Agent: **JENSEN, William, P.**; Shook Hardy and Bacon
L.L.P., Suite 1600, 600 Travis Street, Houston, TX 77002-
2911 (US).

(22) International Filing Date: 30 October 2000 (30.10.2000)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(26) Publication Language: English

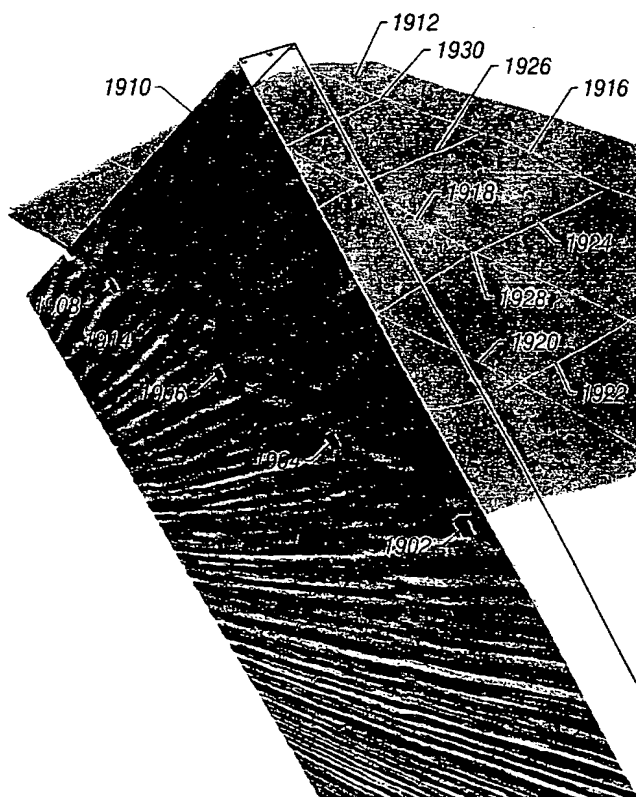
(71) Applicant (*for all designated States except US*): **MAGIC
EARTH L.L.C.** [US/US]; Suite 750, 2000 West Sam
Houston Parkway, Houston, TX 77042 (US).

(72) Inventors; and

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).(75) Inventors/Applicants (*for US only*): **CHEUNG, Yin**
[US/US]; 5906 Bayberry Way, Sugar Land, TX 77479
(US). **LEES, Jack** [US/US]; 6403 Edloc, Houston, TX
77005 (US). **SEMBROSKI, Charles** [US/US]; 5307
Summerside, Katy, TX 77450 (US). **ZEITLIN, Michael**
[US/US]; 12506 Old Oaks, Houston, TX 77024 (US).

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR ANALYZING AND IMAGING THREE-DIMENSIONAL VOLUME DATA SETS



(57) Abstract: A system and method is provided for quickly tracking a physical phenomena represented within the three-dimensional volume data set. A plurality of planes may be successively displayed in the three-dimensional volume data set from which points are digitized related to the structure of interest to create a spline curve on each plane. The area between the spline curves (1914, 1916, 1918, 1920) is interpolated to produce a surface (1912) representative of the structure of interest, which may for example be a fault plane described by the three-dimensional volume data set. In this manner, the user can more easily and effectively visualize and interpret the features and physical parameters that are inherent in the three-dimensional volume data set.

02/37422 A1



Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.